

WHAT IS CLAIMED IS:

1. A mobile phone charger for charging a battery of a mobile phone with a prescribed voltage, comprising:
 - a charging current generator for generating a charging current to charge
 - 5 the battery of the mobile phone upon receiving an input current, and selectively generating the charging current upon receiving a charging initiation signal; and
 - a sterilizer being driven by the charging current received from the charging current generator, and sterilizing the battery and the mobile phone at predetermined time intervals.
- 10 2. The mobile phone charger as set forth in claim 1, wherein the sterilizer executes a sterilization function for sterilizing the mobile phone and the battery while a charging function for charging the battery with the charging current is executed, and terminates the sterilization function when the charging function is terminated.
- 15 3. The mobile phone charger as set forth in claim 1, wherein the charging current generator outputs different charging currents according to a charging mode, and the sterilizer repeatedly executes and terminates the sterilization function according to the charging mode.
- 20 4. The mobile phone charger as set forth in claim 3, wherein the charging mode is set to any one of a pre-charge mode, a constant current mode, and a constant voltage mode.

5. The mobile phone charger as set forth in claim 4, wherein the sterilizer executes the sterilization function for a predetermined time whenever the charging mode changes to another mode.

6. The mobile phone charger as set forth in claim 1, wherein the
5 sterilizer generates different wavelengths from among several wavelengths within a predetermined range during the sterilization function.

7. The mobile phone charger as set forth in claim 1, wherein the sterilizer is one of an infrared sterilizer and an ultraviolet sterilizer.

8. A method for sterilizing a mobile phone using a mobile phone
10 charger, comprising the steps of:

a) generating a charging current to charge a battery of the mobile phone upon receiving an input current;

b) determining whether the mobile phone is mounted to a charging connector transferring the charging current to the mobile phone; and

15 c) if the mobile phone is mounted to the charging connector, sterilizing the mobile phone at predetermined time intervals using the charging current.

9. The method as set forth in claim 8, wherein step (c) includes the steps of:

c1) checking a voltage value charged in the battery of the mobile phone
20 mounted to the charging connector;

c2) comparing the checked voltage value with a predetermined voltage value;

c3) if the checked voltage value is lower than the predetermined voltage value, transmitting the charging current to the mobile phone mounted to the charging connector; and

c4) charging the battery with the charging current, and sterilizing the mobile phone.

10. The method as set forth in claim 9, wherein step (c2) includes the steps of:

10 c2-1) if the checked voltage value is higher than the predetermined voltage value, terminating the charging current applied to the mobile phone; and

c2-2) if the charging current is terminated, terminating charging the battery of the mobile phone and at the same time terminating sterilization of the mobile phone.

15 11. The method as set forth in claim 8, wherein step (a) includes the steps of:

a1) outputting different charging currents according to a charging mode; and

a2) repeatedly executing and terminating the sterilization function according to the charging mode.

12. The method as set forth in claim 11, wherein the charging mode is set to any one of a pre-charge mode, a constant current mode, and a constant voltage mode.

13. The method as set forth in claim 12, wherein step (c) includes the step of executing the sterilization function for a predetermined time whenever the charging mode is changed.

14. The method as set forth in claim 8, wherein step (c) includes the step of sterilizing the mobile phone using one of an infrared sterilization process and an ultraviolet sterilization process.

15. A mobile phone charger for charging a battery of a mobile phone with a prescribed voltage, comprising:

a charging current generator for generating a charging current to charge the battery of the mobile phone upon receiving an input current, and providing the mobile phone with the charging current;

a charging connector connected to the mobile phone receiving the charging current, and receiving charging status information from the mobile phone; and

a sterilizer for generating a wavelength signal corresponding to the charging current after the mobile phone is mounted to the charging connector, and sterilizing the mobile phone mounted to the charging connector at predetermined time intervals.

16. The mobile phone charger as set forth in claim 15, wherein the sterilizer executes a sterilization function of the mobile phone if it is determined that the battery of the mobile phone is being charged with the charging current on the basis of the charging status information.

5 17. The mobile phone charger as set forth in claim 15, wherein the charging current generator provides the mobile phone with different charging currents according to a charging mode, and the sterilizer repeatedly executes and terminates the sterilization function according to the charging mode.

10 18. The mobile phone charger as set forth in claim 17, wherein the charging mode is set to any one of a pre-charge mode, a constant current mode, and a constant voltage mode.

19. The mobile phone charger as set forth in claim 18, wherein the sterilizer executes the sterilization function for a predetermined time whenever the charging mode is changed.

15 20. The mobile phone charger as set forth in claim 15, wherein the sterilizer generates different wavelengths from among wavelengths within a predetermined range upon receiving the charging current, and executing the sterilization function.

20 21. The mobile phone charger as set forth in claim 15, wherein the sterilizer is one of an infrared sterilizer and an ultraviolet sterilizer.

22. A method for sterilizing a mobile phone using a mobile phone charger with a sterilization function for sterilizing the mobile phone and a battery of the mobile phone, comprising the steps of:

- 5 a) determining if the mobile phone is mounted to the mobile phone charger, and if so, providing the mobile phone with a charging current;
- b) determining whether the mobile phone receives charging status information indicative of a charging function active/inactive state of the battery;
- c) if the mobile phone receives the charging status information, determining whether a voltage value contained in the charging status information
10 remains at a logic high state or a logic low state; and
- d) if the voltage value remains at a logic high state, executing a sterilization function of the mobile phone.

23. The method as set forth in claim 22, further comprising the step of:

- e) if the voltage value remains at a logic low state, terminating the
15 sterilization function of the mobile phone.

24. The method as set forth in claim 22, wherein the sterilization function is repeatedly executed at predetermined time intervals.

25. The method as set forth in claim 22, wherein the sterilization function is executed by generating different wavelengths from among
20 wavelengths within a predetermined range.

26. The method as set forth in claim 22, wherein the sterilization function uses one of an infrared sterilization process and an ultraviolet sterilization process to sterilize the mobile phone.

27. The method as set forth in claim 22, wherein:

5 step (a) includes the step of generating different charging currents according to a charging mode; and

 step (d) includes the step of repeatedly executing and terminating the sterilization function according to the charging mode.

28. The method as set forth in claim 27, wherein the charging mode is
10 set to any one of a pre-charge mode, a constant current mode, and a constant voltage mode.

29. The method as set forth in claim 28, wherein step (d) includes the step of executing the sterilization function for a predetermined time whenever the charging mode is changed.

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